Remarks:

Claims 1-6 were previously pending and were rejected by the Examiner in the last Office Action. Applicants have added new independent claim 7 and dependent claims 8-9.

In the Office Action, the Examiner rejected claims 1-5 under 35 U.S.C. § 102(b) as being anticipated by Masumoto or Takayasu. The Examiner also rejected dependent claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Masumoto or Takayasu. Applicants respectfully submit that the claims are allowable over the prior art references of record. In particular, the references do not teach or suggest the feature of calibrating the altimeter *while the electronic device is in motion*, as claimed in the pending independent claims.

As discussed in the *Description of the Related Art* of the present application, prior art electronic devices utilizing a GPS unit and a barometric pressure altimeter ("altimeter") to determine an altitude of the device often inaccurately calibrate the altimeter using GPS-derived altitude information. As explained at pages 2-3 of the specification, such prior art devices calibrate the altimeter by finding the difference between an altitude as measured by the altimeter and an altitude as measured by the GPS unit. This difference, otherwise known as a correction factor or barometric bias, is then applied to the altitude as determined by the altimeter for calibrating the altimeter. However, as discussed in the *Description of the Related Art*, utilizing the correction factor, i.e., the difference between the GPS unit-derived altitude and the altimeter-derived altitude, as a term in calibrating the altimeter will **common mode out any dynamic changes due to movement of the barometric altimeter and the GPS unit in tandem**. Therefore, in order to obtain an accurate correction factor, the electronic device must be stationary while calibrating the altimeter. Otherwise, if the electronic device is in motion while obtaining the correction factor, the long-term fluctuations

in the altitude as measured by the barometric pressure altimeter and the short-term fluctuations in the altitude as measured by the GPS unit will not be properly accounted for and considered in the calibration calculation.

To solve this problem, the present invention provides a calibration process that does more than take the mere difference between the GPS unit-derived altitude and the altimeter-derived altitude. Instead, the present invention computes a preliminary calibrated elevation, computes a base pressure value corresponding to the preliminary calibrated elevation, and from these values computes a fully-calibrated elevation or altitude. Importantly, these calibration computations can be performed while the electronic device is in motion via travel by a user. Therefore, the user of the electronic device is not required to stand still while calibrating the altimeter. The presently pending independent claims recite this feature by specifically claiming that the electronic device is operable to **calibrate the altimeter while the device is in motion**.

In contrast, Applicants respectfully submit that Masumoto does not teach or suggest calibrating the altimeter while the electronic device is in motion. To teach this feature, the Examiner notes item 18 of Figure 2 in Masumoto. Item 18, referring to a "measurement mode detector," is discussed more thoroughly at column 4, lines 26-35:

> The navigation system 10 includes . . . a measurement mode detector 18 for detecting a measurement mode based on the GPS data D_G from the GPS receiver 11. The measurement mode detector 18 detects a three-dimensional position measurement mode when all radio waves can be received from four GPS satellites, and a two-dimensional position measurement mode when radio waves can be received from only three of the four GPS satellites.

Therefore, the "measurement mode detector 18" determines nothing more than whether the GPS unit can receive two-dimensional or three-dimensional information at any given time, and thus,

whether the GPS unit can determine an altitude of the unit. The measurement mode detector has nothing to do with directly calibrating the altimeter and certainly has nothing to do with calibrating the altimeter while the electronic device is in motion.

As for Takayasu, it provides even less disclosure of how it calibrates the altimeter. From the Abstract and as noted by the Examiner, Takayasu merely states that it includes an altimeter and GPS unit where the altitude data is used in calibration. Nothing is provided regarding a process by which the altimeter is calibrated. Applicants note that they are not simply claiming calibration of an altimeter; instead, Applicants are claiming that such is done while the electronic device is in motion. As explained above, prior art methods of calibration cannot be performed while the device is in motion. Therefore, the Examiner's argument that Takayasu is a section 102(b) reference merely because it discloses calibrating the altimeter is simply insufficient for teaching the claimed feature of calibrating while the device is in motion.

Applicants also respectfully submit that none of the prior art references of record teach **accounting for dynamic changes in altitude as determined by the GPS unit and altimeter**, as currently claimed in dependent claim 5 and independent claim 7. The Examiner argues that such feature is taught by Masumoto in that "the Masumoto ('540) apparatus is unitary and continuously takes account of the outputs of both the "GPS RECEIVER" (item 11 of Figure 2) and of the "AIR-PRESSURE ALTIMETER" (item 13 of Figure 2)." (Office Action, Page 3). First, Applicants submit that simply being a "unitary" apparatus (which Applicants presumably mean an apparatus housed within a unitary housing) does not affect whether the apparatus is operable to account for dynamic changes in the two altitude readings. Second, even if Masumoto does teach that the GPS receiver and altimeter are operable to continuously receive altitude information, as suggested by the

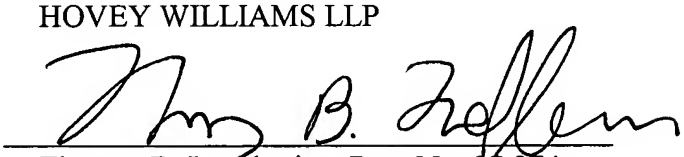
Examiner, this still does not account for dynamic changes between the two readings. Therefore, Applicants respectfully submit that Masumoto does not teach or suggest the recited feature of **accounting for dynamic changes between the altitude as measured by the GPS unit and the altitude as measured by the altimeter**.

The remaining claims not discussed depend, directly or indirectly, from the discussed independent claims and therefore, should also be in a condition for allowance.

In view of the remarks herein, Applicants respectfully submit that claims 1-9 are in allowable condition and requests a corresponding Notice of Allowance. Should the Examiner have any questions, the Examiner is urged to call the undersigned. Any fee due in connection with this application should be applied against Deposit Account No. 19-0522.

Respectfully submitted,

HOVEY WILLIAMS LLP

BY: 

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